

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/IT 03/00859

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17):*

Description, Pages

1-3, 5-9	as originally filed
4	received on 26.07.2005 with letter of 25.07.2005

Claims, Numbers

1-14	received on 26.07.2005 with letter of 25.07.2005
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Drawings, Sheets

1/3-3/3	as originally filed
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2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.: 15
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/IT 03/00859

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-14
	No: Claims	
Inventive step (IS)	Yes: Claims	1-14
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-14
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

Reference is made to the following document:

D1: US-A-4 671 843 (OLSEN ROBERT F) 9 June 1987 (1987-06-09)

1 INDEPENDENT CLAIMS 1, 13, 14

1.1 The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and shows (the references in parentheses applying to this document):
An aspirating roller (21) comprising pairs of pads (57, 64) and a portion of the lateral surface (43) of the roller between the pads is defined by an elastically deformable plate-like element (column 4, lines 10-18, figure 2).

note 1 : The cylindrical member 42 in D1 has a circumferential covering 43 of rubber which has a *resilient* (elastically deformable) structure.

note 2 : The lateral surface as disclosed in D1 (circumferential covering 43), can be considered as one plate-like element or as being composed out of multiple plate-like elements (or segments) of which each element comprises a pair of pads (57, 64), which is/are adhered onto the cylindrical member (42).

1.2 The subject-matter of claim 1 differs from this known aspirating roller in that the plate-like element has connecting portions which are fixed on each pad.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

1.3 The problem to be solved by the present invention may be regarded as providing an easy replacement of the portion of the lateral surface of the roller between the pads in case of required adjustments or malfunctioning.

1.4 The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

An elastically deformable plate-like element having connecting portions which are fixed on each pad, provides the possibility of mounting and removing the element in case of required adjustments or malfunctioning.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/IT 03/00859

1.5 The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent method claims 14 and 15, which therefore are also considered new and inventive.

2 DEPENDENT CLAIMS 2-12

Claims 2-12 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

26-07-2005

IAP9 Rec'd PCT/PTO 28 NOV 2005

IT0300859

EPO - DG 1

26. 07. 2005

CONFIRMATION FAX

4

(93)

mechanical deformations of the containers to be labelled.

Another object of the present invention is to provide a roller with a lateral surface that has adequate wear resistance and allows an efficient relative sliding between the label and the roller, when transferring the label on the container.

A further object is to achieve the aforesaid results in the context of a simple, rational and reliable constructive solution.

Said aims are fully achieved by the roller for transferring labels and by the related method, according to the present invention, which is characterised by the content of the appended claims ~~and in particular in that at least a~~ portion of the lateral surface of the roller ~~between the pads~~ is elastically deformable.

In particular, ~~in the preferred embodiment said lateral elastically deformable surface is defined by at least a plate like element.~~

The method is characterised by the content of claims 14 and 15 set out below.

BRIEF DESCRIPTION OF DRAWINGS.

These and other characteristics shall become more readily apparent from the following description of a preferred embodiment illustrated, purely by way of non limiting example, in the accompanying drawing tables, in which:

- Figure 1 shows a top schematic view of a labelling machine provided with a roller in accordance with the present invention;
- Figure 2 shows a constructive detail of the roller shown in Figure 1;
- Figures 3 and 4 show two global axonometric views of a plate like element

- < 2. A roller as claimed in claim 1, characterized in that each pad (20;21) presents openings suitable for receiving said connecting portions of the plate-like element (6). >

10

CLAIMS

1. An aspirating roller (1) for transferring labels, comprising at least a pair of pads (20;21) projecting relative to a lateral surface (1a) of the roller (1), ~~characterised in that at least a portion of the lateral surface (1a) of the roller (1) between the pads (20;21) is elastically deformable, being~~

EPO - DG 1 ~~2. A roller as claimed in claim 1, characterised in that said elastically deformable lateral surface (1a) is defined by at least a~~ ^{an elastically deformable} plate-like element (6),

26. 07. 2005

(93)

~~3. A roller as claimed in claim 2, characterised in that the plate-like element (6) has connecting portions which are inserted into corresponding openings present on each pad (20;21).~~

3. ^{< >} ~~4.~~ A roller as claimed in claim ² ~~3~~, characterised in that it comprises at least a dampening insert (9) interposed between a surface (8) not in view of the plate-like element (6) and a structural portion (1b) of the roller (1).

4. ³ ~~5.~~ A roller as claimed in claim ~~4~~, characterised in that the dampening insert (9) is made of sponge-like material.

5. ² ~~6.~~ A roller as claimed in claim ~~5~~, characterised in that each pad (20;21) has a dovetailed coupling (20a;21a) so shaped as to be coupled with corresponding seats (10) obtained on the roller (1).

6. ⁵ ~~7.~~ A roller as claimed in claim ~~6~~, characterised in that it comprises at least a stop element (11) removably fastened to the roller (1) and defining at least a portion (10a) of one of said seats (10), to maintain in position a pad (21) during the operation of the roller (1) to allow its possible removal when the roller is in resting condition.

7. ⁶ ~~8.~~ A roller as claimed in claim ~~7~~, characterised in that the stop element

(11) is removably fastened to the roller (1) by means of a mechanical connection.

8. ~~9.~~ A roller as claimed in claim ~~8~~⁷, characterised in that the mechanical connection is constituted by at least a screw.
9. ~~10.~~ A roller as claimed in claim 1, characterised in that it comprises at least a dampening insert (5) interposed between a surface (22;23) not in view of each pad (20;21) and a structural portion (1b) of the roller (1).
10. ~~11.~~ A roller as claimed in claim ~~8~~², characterised in that the connecting portions comprise a plurality of tabs (6a;6b;6c;6d) so shaped as to be inserted into corresponding slots (7) present on each pad (20;21).
11. ~~12.~~ A roller as claimed in claim ~~2~~¹, characterised in that the plate-like element (6) has a plurality of holes (16) to allow the aspiration of a label.
12. ~~13.~~ A roller as claimed in claim ~~2~~¹, characterised in that the plate-like element (6) is flexible and made of harmonic steel.
13. ~~14.~~ A method for removing an elastically deformable plate-like element (6), of the type present between a pair of pads (20;21) and defining a lateral surface (1a) of a transfer roller (1), characterised in that it comprises the following steps:
 - removing a stop element (11) for a pad (21) associated to the roller (1);
 - sliding the pad (21) along a lateral development of the roller (1), to disengage it from a seat (10) obtained on the roller (1) itself;
 - disengaging first connecting portions (6a;6b) of the plate-like element (6) from corresponding openings (7) present on the removed pad (21);
 - disengaging second connecting portions (6c;6d) of the plate-like element

(6) from corresponding openings (7) present on a second pad (20);

- removing the plate-like element (6), now free.

14. ~~15.~~ A method for mounting an elastically deformable plate-like element (6), of the type present between a pair of pads (20;21) and defining a lateral surface (1a) of a transfer roller (1), characterised in that it comprises the following steps:

- removing a stop element (11) for a pad (21) associated to the roller (1);
- sliding the pad (21) along a lateral development of the roller (1), to disengage it from a seat (10) obtained on the roller itself (1);
- inserting second connecting portions (6c;6d) of the plate-like element (6) into corresponding openings (7) present on a second pad (20) fastened on the roller (1);
- inserting first connecting portions (6a;6b) of the plate-like element (6) into corresponding openings (7) present on the removed pad (21);
- reinserting the removed pad (21) into the corresponding seat (10) present on the roller (1);
- fastening the stop element (11) to the roller (1).